

Appeal Brief

Serial Number: 10/699,269

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Title: METHODS AND APPARATUS FOR PREDICTIVE SERVICE FOR INFORMATION TECHNOLOGY RESOURCE OUTAGES

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PATENT

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Applicant: Rajagopal Narayanasamy Examiner: William Saindon

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SERVICE FOR INFORMATION TECHNOLOGY
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APPEAL BRIEF TO THE BOARD OF
PATENT APPEALS AND INTERFERENCES OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE

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Appellant's Brief on Appeal

This brief is presented in support of the Notice of Appeal filed on 21 SEPT 2009 from the Final Rejection of claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 of the above identified application, as set forth in the Final Office Action mailed 20 April 2009.

The clean version of the claims is included on pages 41-77
“Claims Appendix.”

Appellant respectfully traverses the rejections and requests reversal of the rejection under 35 U.S.C 103(a) of pending claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 in the Final Office Action mailed 20 April 2009.

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Real Party in Interest (37 C.F.R. § 41.37(c)(1)(i))

The present application has been assigned to the General Electric Company having an office and place of business at One River Road, Schenectady, NY. 12345, in an assignment recorded on 09/28/2008, on Reel 021596, Frame 0967.

Related Appeals and Interferences (37 C.F.R. § 41.37(c)(1)(ii))

None.

Status of the Claims (37 C.F.R. § 41.37(c)(1)(iii))

A. Total Number of Claims in Application

There are 74 claims pending in the application (claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121).

B. Status of All the Claims

Claims 1, 25, 36, 49, 78, 82 and 86 are independent claims. Claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 stand rejected, and are hereby appealed.

C. Claims on Appeal

There are 74 claims on appeal (claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121).

Status of Amendments (37 C.F.R. § 41.37(c)(1)(iv))

On Nov 1, 2003, the application was filed with claims 1-124.

A Restriction requirement dated June 16, 2008 required restriction to one of the following “inventions” under 35 U.S.C. 121:

I. Claims 1-15, 25-54, 78-88, 93-105, and 111-121, drawn to a method for managing outages of IT resources, classified in class 705, subclass 7.

II. Claims 16-24, 55-77, 89-92, and 106-110, drawn to a method for predicting outages of an IT resource, classified in class 705, subclass 7.

III. Claims 122-124, drawn to a method of measuring information to determine the significance of the measurement, classified in class 705, subclass 7.

In response, election without traversal was made to “Species I” claims 1-15, 25-54, 78-88, 93-105, and 111-121 and claims 16-24, 55-77, 89-92, 106-110 and 122-124 were withdrawn.

In a nonfinal Office Action dated December 26, 2008, claims 1-15, 25-54, 78-88, 93-105, and 111-121 were rejected under 35 U.S.C. 101, claims 1-15, 25-54, 78-88, 93-105, and 111-121 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, claims 1-15, 25-54, 78-88, 93-105, and 111-121 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement, claims 1-15, 25-35, 42, 43, 49-54, 78-81, 83, 86-88, 93-96, 98, 101-105, 111-116, and 119 were rejected under 35 U.S.C. 112, second paragraph, claims 36-41, 44-48, 82, 84, 85, 97, 99, 100, 117, 118, 120, and 121 were rejected under 35 U.S.C. 112, second paragraph, claims 1, 11-14, 25, 34-36, 42, 44-47, 78, 81-85, 93, 96-100, 111, 115-117, and 119-121 were rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (US 7,149,917) in view of Heinrich (US 20050114186), claims 2-10, 15, 26-33, 37-41, 43, 48, 49-

54, 79, 80, 86-88, 94, 95, 101-105, 112-114, and 118 were rejected under 35 U.S.C. 103(a) as being unpatentable over Huang and Heinrich as applied above, and further in view of official notice.

In Response, claims 1-15, 25-54 and 78-85 were amended in accordance with the suggestion per claim 55 on page 3 of the Office Action to Beauregard format: “A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising” as supported by paragraphs 23-22 and 76-80 of the specification.

In Response claims 86-88, 93-105 and 111-121 were amended to require “a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon” as supported by paragraphs 23-22 and 76-80 of the specification.

In Response, Applicant traversed the rejection of claims 1-15, 25-54, 78-88, 93-105, and 111-121 under 35 U.S.C. 112, first paragraph written description because paragraph 45 of the specification states “In the correlating 306, associations for individual resources between the infrastructure performance data and the process data are determined.” The particular implementation of “correlating” described in paragraph 45 is not a “redefinition” of “correlating.” On the contrary, the particular implementation of “correlating” described in paragraph 45 is merely a particular embodiment that is described in the manner used in some implementations that is consistent and not repugnant with the plain meaning of “correlating” [MPEP 2111.01(I)].

Nonetheless, Applicant amended claims 36 and 82 to require “correlating the infrastructure data and the process data” and claim 97 was amended to require “a correlator of the infrastructure performance

data and the process data” and claim 117 was amended to require “apparatus operable to correlate the infrastructure data and the process data” and Applicant requested withdrawal of the rejection of claims 36-48, 82-85, 97-100 and 117-121 under 35 U.S.C. 112, first paragraph written description requirement.

In Response, Applicant traversed the rejection of claims 1-15, 25-35, 42, 43, 49-54, 78-81, 83, 86-88, 93-96, 98, 101-105, 111-116, and 119 under 35 U.S.C. 112, first paragraph, enablement requirement, because the particular implementations of “correlating” described in paragraphs 45 and 46 provide detail that is far beyond a disclosure of a bare-bones mere “correlation” that is sufficient to make and/or use the invention; and Applicant requested withdrawal of the rejection of claims 1-15, 25-35, 42, 43, 49-54, 78-81, 83, 86-88, 93-96, 98, 101-105, 111-116, and 119 under 35 U.S.C. 112, first paragraph, enablement requirement.

In Response, Applicant traversed the rejection of claims 1-15, 25-35, 42, 43, 49-54, 78-81, 83, 86-88, 93-96, 98, 101-105, and 111-116, and 119 under 35 U.S.C. 112, second paragraph because paragraph 45 of the specification states “In the correlating 306, associations for individual resources between the infrastructure performance data and the process data are determined.” The particular implementation of “correlating” described in paragraph 45 is not a “redefinition” of “correlating.” On the contrary, the particular implementation of “correlating” described in paragraph 45 is merely a particular embodiment that is described in the manner used in some implementations that is consistent and not repugnant with the plain meaning of “correlating” [MPEP 2111.01(I)] and Applicant request withdrawal of the rejection of claims 1-15, 25-35, 42, 43, 49-54, 78-81,

83, 86-88, 93-96, 98, 101 -105, and 111-116, and 119 under 35 U.S.C. 112, second paragraph.

In Response, claims 36, 82 and 97 were amended to require “correlating” and claim 117 was amended to include “correlate” and Applicant requested withdrawal of the rejection of 36-41, 44-48, 82, 84, 85, 97, 99, 100, 117, 118, 120, and 121 were rejected under 35 U.S.C. 112, second paragraph.

In Response claims 25, 49 and 78 were amended to require “in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data” and claim 1 was amended to require “the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data” and Applicant requested withdrawal of the rejections of claims 1, 25, 49 and 78 and the dependent claims 2-15, 26-35, 49-54 and 79-81, respectively under 35 U.S.C. 103(a).

In Response, Applicant traversed the rejection of claims 1, 25, 49 and 78 and the dependent claims 2-15, 26-35, 49-54 and 79-81, respectively under 35 U.S.C. 103(a) because Huang col. 3 lines 26-30 does not disclose what data is correlated to which data and because Huang col. 3 lines 26-30 does not disclose “correlating the infrastructure performance data and the process data” as claims 1, 25, 49 and 78 require, and Applicant requested withdrawal of the rejections of claims 1, 25, 49 and 78 and the dependent claims 2-15, 26-35, 49-54 and 79-81, respectively under 35 U.S.C. 103(a).

In Response, Applicant traversed the rejection of claims 1, 25, 49, 78 under 35 U.S.C. 103(a) because claim 1 step d of Huang recites “polling for layer-2 outages using the outage measurement systems and polling for layer-3 outages according to results of the layer-2 polling” which does not disclose any “weighting” or multiplication”, much less “each measurement being multiplied by a weighting value associated with each measurement” as claims 12, 45, 53, 85, 88, 104 and 121 require and Applicant requested withdrawal of the rejections of claims 12, 45, 53, 85, 88, 104 and 121 under 35 U.S.C. 103(a).

In Response, Applicant traversed the rejection of claims 36 and 82 under 35 U.S.C. 103(a) because Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “correlating the infrastructure performance data and the process data” as claims 36 and 82 require and Applicant requested withdrawal of the rejections of claims 36 and 82 and the dependent claims 37-48 and 83-85, respectively under 35 U.S.C. 103(a).

In Response, Applicant traversed the rejection of claim 93 under 35 U.S.C. 103(a) because Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “a correlator of the infrastructure performance data and the process data” as claim 93 requires and Applicant requested withdrawal of the rejections of claims 93 and the dependent claims 94-96 under 35 U.S.C. 103(a).

In Response, Applicant traversed the rejection of claim 97 under 35 U.S.C. 103(a) because Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “a correlator of the infrastructure performance data and the process data” as claim 93 requires and Applicant requested withdrawal of the rejections of claim 97 and the dependent claims 99-100 under 35 U.S.C. 103(a).

In Response, Applicant traversed the rejection of claim 111 under 35 U.S.C. 103(a) because Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “apparatus operable to correlate the infrastructure performance data and the process data” as claim 111 requires and Applicant requested withdrawal of the rejections of claims 111 and the dependent claims 112-116 under 35 U.S.C. 103(a).

In response, Applicant traversed the rejection of claim 117 under 35 U.S.C. 103(a) because Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “apparatus operable to correlate the infrastructure performance data and the process data” as claim 117

requires and Applicant requested withdrawal of the rejections of claims 117 and claims 118 and 120-121 under 35 U.S.C. 103(a).

In Response, Applicant traversed the rejections of claims 1, 11-14, 25, 34-36, 42, 44-47, 78, 81-85, 93, 96-100, 111, 115-117, and 119-121 under 35 U.S.C. 103(a) as not discussing or “[r]esolve the level of ordinary skill in the pertinent art.” And thus lacking a prima facie case of obvious of claims 1, 11-14, 25, 34-36, 42, 44-47, 78, 81-85, 93, 96-100, 111, 115-117, and 119-121 under 35 U.S.C. 103(a) was not presented in the Office Action, upon which Applicant requested that the rejections of claims 1, 11-14, 25, 34-36, 42, 44-47, 78, 81-85, 93, 96-100, 111, 115-117, and 119-121 under 35 U.S.C. 103(a) be withdrawn.

In Response claims 49, 86, 101, 111 and 117 were amended to require “in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.” The added matter of those claims is not disclosed by the references of record. In particular, the added matter of those claims are not disclosed by col. 3 lines 26-30 of Huang. Thereupon Applicant requested withdrawal of the rejections of claims 49, 86, 101, 111 and 117 and the dependent claims 50-54, 87-8, 102-105, 112-116 and 118-121, respectively under 35 U.S.C. 103(a).

Applicant traversed the Official Notice of claims 2-10, 15, 26-33, 37-41, 43, 48, 49-54, 79, 80, 86-88, 94, 95, 101-105, 112-114, and 118 as

lacking a reference that describes such an element. Absent a reference, it appears that personal knowledge is used, therefore, and the Applicant respectfully requested an affidavit of the Examiner pertaining to the personal knowledge as required by 37 C.F.R. § 1.104(d)(2).

The Final Rejection dated 20 APRIL 2009 stated “Applicant’s amendments to claims have overcome the previous rejection under §101. Further, amendments to the claims have overcome previous rejections under §112 except as to claims 38-40. Therefore, the Examiner has withdrawn the previous rejections under §101 and §112, except as noted for claims 38-40. The Examiner has maintained the rejection under §103. The Examiner has relied on the art already of record.”

In the Final Rejection dated 20 April 2009, claims 38-40 were rejected under 35 U.S.C. 112, second paragraph, claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 were rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (US 7,149,917) in view of Heinrich (US 2005/0114186).

The claims hereby Appealed are based on the claims 1 -15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 as rejected in the final Office Action dated 20 April 2009.

Summary of the Claimed Subject Matter (37 C.F.R. §
41.37(c)(1)(v))

Pursuant to 27 C.F.R. 41.37(c)(1)(v) a claim chart of the independent claims follows:

CLAIM	SUPPORT AND EXPLANATION
<p>1. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising: collecting infrastructure performance data; collecting process data; correlating the infrastructure performance data and the process data, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology</p>	<p>Claim 1 describes a computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method.</p> <p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting infrastructure performance data.</p> <p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting process data.</p> <p>Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes correlating the infrastructure performance data and the process data, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the</p>

<p>resource is aggregated between various data sources of the infrastructure performance data and the process data; and generating a risk profile from the correlated data.</p>	<p>determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p> <p>Paragraphs 8, 37, 38, 47-49, 54-61, 73 and 78 and FIGS. 2-5 of the published application 2005/0096953 disclose the computer-executable instructions causing a computer to perform the method that includes generating a risk profile from the correlated data.</p>
<p>25. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising:</p> <ul style="list-style-type: none"> collecting process data associated with at least one information technology resource; collecting infrastructure performance data associated with the at least one information technology resource; and correlating the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure 	<p>Claim 25 describes a computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method.</p> <p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting process data associated with at least one information technology resource.</p> <p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting infrastructure performance data associated with the at least one information technology resource.</p> <p>Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to</p>

<p>performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p>	<p>perform the method that includes correlating the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p>
<p>36. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising: collecting infrastructure data; collecting process data; correlating the infrastructure data and the process data, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common</p>	<p>Claim 36 describes a computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method. Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting infrastructure data. Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting process data. Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes correlating the infrastructure data and the process data, the correlating including</p>

<p>name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and generating a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.</p>	<p>determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p> <p>Paragraphs 8, 37, 38, 47-49, 54-61, 73 and 78 and FIGS. 2-5 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes generating a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.</p>
<p>49. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising: collecting infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data; collecting process data</p>	<p>Claim 49 describes a computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method.</p> <p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.</p> <p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose the computer-executable</p>

<p>from at least one of a one service-level control system, a change control system, a root-cause analysis system; correlating the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and generating a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.</p>	<p>instructions causing the computer to perform the method that includes collecting process data from at least one of a one service-level control system, a change control system, a root-cause analysis system.</p> <p>Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes correlating the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p> <p>Paragraphs 8, 37, 38, 47-49, 54-61, 73 and 78 and FIGS. 2-5 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes generating a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.</p>
<p>78. A computer-readable medium having tangibly stored thereon computer-executable instructions</p>	<p>Claim 78 describes a computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method.</p>

<p>causing a computer to perform a method comprising: collecting process data associated with at least one information technology resource; collecting infrastructure performance data associated with the at least one information technology resource; and correlating the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p>	<p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting process data associated with at least one information technology resource.</p> <p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting infrastructure performance data associated with the at least one information technology resource.</p> <p>Paragraphs 8, 36, 38, 45-46, 70-72 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes correlating the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p>
<p>82. A computer-readable medium having tangibly stored thereon computer-executable instructions</p>	<p>Claim 82 describes a computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method.</p>

<p>causing a computer to perform a method comprising: collecting infrastructure data; collecting process data from at least one change control system; correlating the infrastructure data and the process data, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and generating a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.</p>	<p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting infrastructure data.</p> <p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose the computer-executable instructions causing the computer to perform the method that includes collecting process data from at least one change control system; correlating the infrastructure data and the process data, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and generating a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.</p>
86. An apparatus	Claim 86 describes an apparatus

including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon: a collector of infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data; a collector of process data from at least one of a one service-level control system, a change control system, a root-cause analysis system; a correlator of the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology

including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon.

Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose that the apparatus includes a collector of infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.

Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose that the apparatus includes a collector of process data from at least one of a one service-level control system, a change control system, a root-cause analysis system.

Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose that the apparatus includes a correlator of the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and

a generator of a risk profile for each

<p>resource is aggregated between various data sources of the infrastructure performance data and the process data; and a generator of a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.</p>	<p>of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.</p>
<p>93. An apparatus including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon: a collector of process data associated with at least one information technology resource; a collector of infrastructure performance data associated with the at least one information technology resource; and a correlator of the infrastructure performance data and the process data for the information technology resource, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the</p>	<p>Claim 93 describes an apparatus that includes a processor that is operably coupled to a computer-readable medium Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus includes a collector of process data associated with at least one information technology resource. Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus includes a collector of infrastructure performance data associated with the at least one information technology resource. Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus includes a correlator of the infrastructure performance data and the process data for the information technology resource, the correlating including determining associations for individual resources between the infrastructure performance</p>

<p>determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p>	<p>data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p>
<p>97. An apparatus including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon:</p> <ul style="list-style-type: none"> a collector of infrastructure data; a collector of process data from at least one change control apparatus; a correlator of the infrastructure data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data 	<p>Claim 97 describes an apparatus that includes a processor operably coupled to a computer-readable medium.</p> <p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus includes a collector of infrastructure data.</p> <p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus includes a collector of process data from at least one change control apparatus.</p> <p>Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus includes a correlator of the infrastructure data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a</p>

<p>object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and</p> <p>a generator of a risk profile from the correlated data for each of the plurality of information technology resources, from the infrastructure data and the process data.</p>	<p>particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p> <p>Paragraphs 8, 37, 38, 47-49, 54-61, 73 and 78 and FIGS. 2-5 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus includes a generator of a risk profile from the correlated data for each of the plurality of information technology resources, from the infrastructure data and the process data.</p>
<p>101. A system to manage outages of information technology resources, the system including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon: apparatus operable to collect infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data; apparatus operable to collect process data from at</p>	<p>Claim 101 describes a system to manage outages of information technology resources, the system including a processor operably coupled to a computer-readable medium.</p> <p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to collect infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.</p> <p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to collect process data from at least one of a one service-level control</p>

<p>least one of a one service-level control system, a change control system, a root-cause analysis system; apparatus operable to correlate the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and apparatus operable to generate a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.</p>	<p>system, a change control system, a root-cause analysis system.</p> <p>Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to correlate the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p> <p>Paragraphs 8, 37, 38, 47-49, 54-61, 73 and 78 and FIGS. 2-5 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to generate a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.</p>
<p>111. A system to manage data that is predictive of reliability of an information technology</p>	<p>Claim 111 describe a system to manage data that is predictive of reliability of an information technology system, the system includes a processor</p>

system, the system including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon: apparatus operable to collect process data associated with at least one information technology resource; apparatus operable to collect infrastructure performance data associated with the at least one information technology resource; and apparatus operable to correlate the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data

operably coupled to a computer-readable medium.

Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to collect process data associated with at least one information technology resource.

Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to collect infrastructure performance data associated with the at least one information technology resource; and

Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose that the computer-readable medium of the apparatus operable to correlate the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.

sources of the infrastructure performance data and the process data.	
<p>117. A system to assess reliability of a plurality of information technology resources, the system including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon: apparatus operable to collect infrastructure data; apparatus operable to collect process data from at least one change control system; apparatus operable to correlate the infrastructure data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance</p>	<p>Claim 117 describes a system to assess reliability of a plurality of information technology resources and that the system includes a processor operably coupled to a computer-readable medium.</p> <p>Paragraphs 35, 41, 69 and 77 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to collect infrastructure data.</p> <p>Paragraphs 35, 42, 44, 69 and 78 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to collect process data from at least one change control system.</p> <p>Paragraphs 8, 36, 38, 45-46, 70-72 and 78 and FIGS. 2-3, 7 and 9 of the published application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to correlate the infrastructure data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.</p> <p>Paragraphs 8, 37, 38, 47-49, 54-61, 73 and 78 and FIGS. 2-5 of the published</p>

Appeal Brief

Serial Number: 10/699,269

Docket: GE.0001

Filing Date: Nov 1, 2003

Title: METHODS AND APPARATUS FOR PREDICTIVE SERVICE FOR INFORMATION TECHNOLOGY RESOURCE OUTAGES

data and the process data; and apparatus operable to generate a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.

application 2005/0096953 disclose that the computer-readable medium of the system includes apparatus operable to generate a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.

Grounds of Rejection to be Reviewed on Appeal

(37 C.F.R. § 41.37(c)(1)(vi))

- A. Whether claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 are patentable under under 35 U.S.C. 103(a).

Argument (37 C.F.R. § 41.37(c)(1)(vii))

Rejections Under 35 U.S.C. § 103

1) The Applicable Law

The Examiner has the burden under 35 U.S.C. §103 to establish a *prima facie* case of obviousness. KSR Int'l Co. v. Teleflex Inc., 550 U.S. ____ (2007), citing Graham v. John Deere, 383 U.S. 1, 148 USPQ 459 (1966).

2) Discussion of the Rejections.

Rejection of claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111 -118 and 120 - 121 under 35 U.S.C. 103(a)

The Office Action stated “[c]laims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111 -118 and 120 - 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (US 7,149,917) in view of Heinrich (US 20050114186).”

The Subject Matter as Whole was not Obvious At the Time of Filing

Huang et al. has been cited as disclosing features of claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111 -118 and 120 - 121. Applicant notes that Huang et al. has a publication date of 5 FEB 2004 and claims priority to no earlier Application. Applicant submits that at the time of filing of the present invention, 1 NOV 2003, a person of

ordinary skill in the art would not have contemplated combining Heinrich and Huang et al. to arrive at the claimed subject matter.

Applicant respectfully submits that Huang et al. is not citable for providing the alleged knowledge required by one of ordinary skill in the art.

Although Huang et al. may be citable under 35 U.S.C. 102(e), Huang et al. is not applicable under 35 U.S.C. 103(a) because 35 U.S.C. 103(a) recites:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that **the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art** to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. [Emphasis added]

Applicant submits that the only person that could have overcome the deficiencies of Heinrich at the time the invention was made would have been Huang et al. However, the person having ordinary skill in the art, as required by 103(a) is a hypothetical person who is presumed to have known the relevant art at the time of the invention. Huang et al. cannot be considered this hypothetical person.

The teachings of Huang et al. were not available to the hypothetical person having ordinary skill in the art at the time the invention was made, since Huang et al. was not publicly available at the time of the invention. Therefore, the subject matter as a whole

could not have been obvious to one skilled in the art at the time the invention was made. It cannot be considered obvious to modify the teachings of Heinrich according to information that could not be known at the time.

As set forth above, it is not permissible to rely upon a reference which was not publicly available as providing the teachings required to modify a previous invention. As such Applicant respectfully submits that the Examiner's combination of references cannot be maintained under 35 U.S.C. 103(a).

Per claims 1, 25, 49, 78

Claims 25, 49 and 78 were amended by Applicant on 10 MAR 2010 in a good-faith effort to overcome Huang et al. and Heinrich to require “in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data” and claim 1 was amended by Applicant on 10 MAR 2010 in a good-faith effort to overcome Huang et al. and Heinrich to require “the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of

each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.” The added matter of those claims is not disclosed by the references of record. In particular, the added matter of those claims are not disclosed by col. 3 lines 26-30 of Huang. Thus, Applicant requests withdrawal of the rejections of claims 1, 25, 49 and 78 and the dependent claims 2-15, 26-35, 49-54 and 79-81, respectively under 35 U.S.C. 103(a).

“Correlating” The Office Action cites col. 3 lines 26-30 of Huang as disclosure of “correlating the infrastructure performance data and the process data”

An outage monitoring manager 40 in the OMS 15 locally monitors for these different failures and stores outage data 42 associated by with that outage monitoring and measurement. The outage data 42 can be accessed the NMS 12 or other tools for further correlation and calculation operations. (Huang col. 3 lines 26-30)

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “correlating the infrastructure performance data and the process data” as claims 1, 25, 49 and 78 require. Thus, Applicant requests withdrawal of the rejections of claims 1, 25, 49 and 78 and the dependent claims 2-15, 26-35, 49-54 and 79-81, respectively under 35 U.S.C. 103(a).

Per claims 12, 45, 53, 85, 88, 104 and 121

The Office Action cites “claim 1 step d” of Huang as disclosure of “each measurement being multiplied by a weighting value associated with each measurement.”

Claim 1 step d of Huang recites “polling for layer-2 outages using the outage measurement systems and polling for layer-3 outages according to results of the layer-2 polling” which does not disclose any “weighting” or multiplication”, much less “each measurement being multiplied by a weighting value associated with each measurement” as claims 12, 45, 53, 85, 88, 104 and 121 require. Thus, Applicant requests withdrawal of the rejections of claims 12, 45, 53, 85, 88, 104 and 121 under 35 U.S.C. 103(a).

Per claims 36 and 82

The Office Action cites col. 3 lines 26-30 of Huang as disclosure of “correlating the infrastructure performance data and the process data”

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “correlating the infrastructure performance data and the process data” as claims 36 and 82 require. Thus, Applicant requests withdrawal of the rejections of claims 36 and 82 and the dependent claims 37-48 and 83-85, respectively under 35 U.S.C. 103(a).

Per claim 93

The Office Action cites col. 3 lines 26-30 of Huang as disclosure of “correlating the infrastructure performance data and the process data”

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does

not disclose “a correlator of the infrastructure performance data and the process data” as claim 93 requires. Thus, Applicant requests withdrawal of the rejections of claims 93 and the dependent claims 94-96 under 35 U.S.C. 103(a).

Per claim 97

The Office Action cites col. 3 lines 26-30 of Huang as disclosure of “correlating the infrastructure performance data and the process data”

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “a correlator of the infrastructure data and the process data” as claim 97 requires. Thus, Applicant requests withdrawal of the rejections of claims 97 and the dependent claims 99-100 under 35 U.S.C. 103(a).

Per claim 111

The Office Action cites col. 3 lines 26-30 of Huang as disclosure of “correlating the infrastructure performance data and the process data”

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “apparatus operable to correlate the infrastructure performance data and the process data” as claim 111 requires. Thus, Applicant requests withdrawal of the rejections of claims 111 and the dependent claims 112-116 under 35 U.S.C. 103(a).

Per claim 117

The Office Action cites col. 3 lines 26-30 of Huang as disclosure of

“correlating the infrastructure performance data and the process data”

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “apparatus operable to correlate the infrastructure data and the process data” as claim 117 requires. Thus, Applicant requests withdrawal of the rejections of claims 117 and the dependent claims 118 and 120-121 under 35 U.S.C. 103(a).

Prima Facie Obviousness

KSR International Co. v. Teleflex Inc. (KSR) requires that a rejection based on obviousness must make “explicit” a detailed explanation of “the effects of demands known to the design community or present in the marketplace” and “the background knowledge possessed by a person having ordinary skill in the art.” (KSR Opinion at p. 14). Anything less than such an explicit analysis is not sufficient to support a prima facie case of obviousness.

Based upon KSR International Co. v. Teleflex Inc. the Office Action does not show any sufficient reason in obviousness for combining the references, and therefore the claims are not obvious in view of any combination of the cited references.

To establish a prima facie case of obviousness, the Supreme Court has articulated a four-prong test for determining obviousness:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;

- (C) Resolving the level of ordinary skill in the pertinent art;
and
(D) Evaluating evidence of secondary considerations.

See KSR Int'l Co. v. Teleflex Inc., 550 U.S. ____ (2007), citing Graham v. John Deere, 383 U.S. 1, 148 USPQ 459 (1966).

The rejections of claims 1, 11-14, 25, 34-36, 42, 44-47, 78, 81-85, 93, 96-100, 111, 115-117, and 119-121 under 35 U.S.C. 103(a) do not discuss or “[r]esolve the level of ordinary skill in the pertinent art.” As a result, a prima facie case of obvious of claims 1, 11-14, 25, 34-36, 42, 44-47, 78, 81-85, 93, 96-100, 111, 115-117, and 119-121 under 35 U.S.C. 103(a) was not presented in the Office Action. Applicant requests that the rejections of claims 1, 11-14, 25, 34-36, 42, 44-47, 78, 81-85, 93, 96-100, 111, 115-117, and 119-121 under 35 U.S.C. 103(a) be withdrawn.

Rejection of claims 2-10, 15, 26-33, 37-41, 43, 48, 49-54, 79, 80, 86-88, 94, 95, 101-105, 112-114, and 118 35 U.S.C. 103(a)

Claim Amendments: Claims 49, 86, 101, 111 and 117 were amended by Applicant on 10 MAR 2010 in a good-faith effort to overcome Huang et al. and Heinrich to require “in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between

various data sources of the infrastructure performance data and the process data.” The added matter of those claims is not disclosed by the references of record. In particular, the added matter of those claims are not disclosed by col. 3 lines 26-30 of Huang. Thus, Applicant requests withdrawal of the rejections of claims 49, 86, 101, 111 and 117 and the dependent claims 50-54, 87-8, 102-105, 112-116 and 118-121, respectively under 35 U.S.C. 103(a).

Official Notice: The Office Action stated “[c]laims 2-10, 15, 26-33, 37-41, 43, 48, 49-54, 79, 80, 86-88, 94, 95, 101-105, 112-114, and 118 were rejected under 35 U.S.C. 103(a) as being unpatentable over Huang and Heinrich as applied above, and further in view of official notice.” Applicant respectfully traverses this official notice and requests a reference that describes such an element. Absent a reference, it appears that personal knowledge is used, therefore, the Applicant respectfully requests an affidavit of the Examiner pertaining to the personal knowledge as required by 37 C.F.R. § 1.104(d)(2).

Per claim 2: The Office Action took official notice “that it is old and well known in the art to collect data concurrently with other data.” Claim 2 is more specific than the mere requirement of “to collect data concurrently with other data.” Applicant respectfully traverses this Official Notice and requests a reference that describes such the elements of Office Notice. Absent a reference, it appears that personal knowledge is used, therefore, the Applicant respectfully requests an affidavit of the Examiner pertaining to the personal knowledge as required by 37 C.F.R. § 1.104(d)(2).

Per claims 3-7: The Office Action took official notice “that it is old and well known to collect data using data collection tools.” Claims 3-7 are more specific than the mere requirement “to collect data using data collection tools.” Applicant respectfully traverses this official notice and requests a reference that describes such an element. Absent a reference, it appears that personal knowledge is used, therefore, the Applicant respectfully requests an affidavit of the Examiner pertaining to the personal knowledge as required by 37 C.F.R. § 1.104(d)(2).

Per claims 8-10 and 113: The Office Action took official notice “that it is old and well known to use relevant data in analysis.” Claims 8-10 and 113 are more specific than the mere requirement “to use relevant data in analysis.” Applicant respectfully traverses this official notice and requests a reference that describes such an element. Absent a reference, it appears that personal knowledge is used, therefore, the Applicant respectfully requests an affidavit of the Examiner pertaining to the personal knowledge as required by 37 C.F.R. § 1.104(d)(2).

Per claim 15: The Office Action took official notice “that it is old and well known that outages are not good.” The Official Notice is irrelevant to the requirements of claim 15. Applicant respectfully traverses this official notice and requests a reference that describes such an element. Absent a reference, it appears that personal knowledge is used, therefore, the Applicant respectfully requests an affidavit of the Examiner pertaining to the personal knowledge as required by 37 C.F.R. § 1.104(d)(2).

Per claim 26: The Office Action took official notice “that it is old and well known to collect one set of data before the other.” Claim 26 is more specific than the mere requirement of “to collect one set of data before the other.” Applicant respectfully traverses this official notice and requests a reference that describes such an element. Absent a reference, it appears that personal knowledge is used, therefore, the Applicant respectfully requests an affidavit of the Examiner pertaining to the personal knowledge as required by 37 C.F.R. § 1.104(d)(2).

Per claim 86

The Office Action cites col. 3 lines 26-30 of Huang as disclosure of “correlating the infrastructure performance data and the process data”

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “a correlator of the infrastructure performance data and the process data” as claim 86 requires. Thus, Applicant requests withdrawal of the rejections of claims 86 and the dependent claims 87-88 under 35 U.S.C. 103(a).

Per claim 101

The Office Action cites col. 3 lines 26-30 of Huang as disclosure of “correlating the infrastructure performance data and the process data”

However, Huang col. 3 lines 26-30 does not disclose what data is correlated to which data. In particular, Huang col. 3 lines 26-30 does not disclose “apparatus operable to correlate the infrastructure performance data and the process data” as claim 101 requires. Thus,

Applicant requests withdrawal of the rejections of claims 101 and the dependent claims 102-105 under 35 U.S.C. 103(a).

CONCLUSION

It is respectfully submitted that the cited art neither anticipates nor renders obvious the claimed invention, and that therefore the claimed invention does patentably distinguish over the cited art. It is respectfully submitted that amended claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 should therefore be allowed because the Examiner has not made a *prima facie* case of anticipation or obviousness. Reversal of the Examiner's rejections of claims 1-15, 25-41, 43-54, 78-82, 84-88, 93-97, 99-105, 111-118 and 120-121 is respectfully requested.

Respectfully submitted,



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Date: April 21, 2010

Appeal Brief

Serial Number: 10/699,269

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Title: METHODS AND APPARATUS FOR PREDICTIVE SERVICE FOR INFORMATION TECHNOLOGY RESOURCE
OUTAGES

Docket: GE.0001

Evidence Appendix

None.

Related Appeals Appendix

None.

Claims Appendix (clean version)

In accordance with 37 C.F.R. 41.110(a), the Applicant submits the following clean version of all claims:

1. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising:
 - collecting infrastructure performance data;
 - collecting process data;
 - correlating the infrastructure performance data and the process data, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and
 - generating a risk profile from the correlated data.
2. The computer-readable medium as in claim 1, wherein collecting infrastructure performance data is performed concurrently with collecting process data.
3. The computer-readable medium as in claim 1, wherein collecting infrastructure performance data further comprises:
 - collecting infrastructure performance data from at least one automated

testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.

4. The computer-readable medium as in claim 1, wherein collecting process data further comprises:

collecting process data from at least one manual-work-process tracking system.

5. The computer-readable medium as in claim 4, wherein collecting process data from at least one manual-work-process tracking system further comprises:

collecting process data from at least one change control system.

6. The computer-readable medium as in claim 4, wherein collecting process data from at least one manual-work-process tracking system further comprises:

collecting process data from at least one root-cause analysis system.

7. The computer-readable medium as in claim 4, wherein collecting process data from at least one manual-work-process tracking system further comprises:

collecting process data from at least one service-level control system.

8. The computer-readable medium as in claim 1, wherein the correlating further comprises:

correlating application data, server data and database data from the infrastructure performance data and the process data.

9. The computer-readable medium as in claim 1, wherein the correlating further comprises:

correlating the infrastructure performance data and the process data for each of the information technology resources, in reference to organizational control of the resources.

10. The computer-readable medium as in claim 1, wherein the correlating further comprises:

correlating at least one type of resource data selected from the group consisting of application resource data, server resource data and database resource data, in reference to a common data object.

11. The computer-readable medium as in claim 1, wherein generating a risk profile further comprises:

generating a risk score from a frequency of outages in the infrastructure performance data and a frequency of changes in the process data, for each of the information technology resources.

12. The computer-readable medium as in claim 1, wherein the infrastructure performance data further comprises at least one measurement of performance for an information technology resource and the process data further comprises at least one measurement of activity for the information technology resource, and generating a risk profile further comprises:

generating a score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of scores; and

summing the plurality of scores, yielding a risk score.

13. The computer-readable medium as in claim 12, wherein

generating a score for each of the measurements further comprises:

- generating the score with a higher magnitude for an increasing frequency of outages of the information technology resource as indicated in the infrastructure performance data; and

- generating the score with a higher magnitude for an increasing frequency of changes of the information technology resource as indicated in the process data.

14. The computer-readable medium as in claim 12, wherein generating a score for each of the measurements further comprises:

- generating the score with a lower magnitude for a decreasing frequency of outages of the information technology resource as indicated in the infrastructure performance data; and

- generating the score with a lower magnitude for a decreasing frequency of changes of the information technology resource as indicated in the process data.

15. The computer-readable medium as in claim 1, wherein a higher risk score is generated for information technology resources having an increasing frequency of outages.

16. (withdrawn)A method for predicting outages of an information technology resource, comprising:

- generating a singular risk score from infrastructure performance data of the information technology resource and process data of the information technology resource; and

- providing an alert to a user when the singular risk score exceeds a predetermined threshold.

17. (withdrawn)The method as in claim 16, wherein a higher singular risk score is generated for an increasing frequency of outages of the information technology resource.

18. (withdrawn)The method as in claim 16, wherein generating a singular risk score further comprises:

generating the singular risk score with a higher magnitude for an increasing frequency of outages of the information technology resource as indicated in the infrastructure performance data;

generating the singular risk score with a higher magnitude for an increasing frequency of changes of the information technology resource as indicated in the process data;

generating the singular risk score with a lower magnitude for a decreasing frequency of outages of the information technology as indicated in the infrastructure performance data; and

generating the singular risk score with a lower magnitude for a decreasing frequency of changes of the information technology as indicated in the process data.

19. (withdrawn)The method as in claim 16, wherein generating a singular risk score further comprises:

generating the singular risk score in correspondence to the frequency of outages indicated in the infrastructure performance data and in correspondence to the frequency of changes in the process data.

20. (withdrawn)The method as in claim 16, wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and generating a singular risk score further

comprises:

generating a singular score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of weighted scores; and
summing the plurality of weighted scores, yielding the singular risk score.

21. (withdrawn)The method as in claim 16, the method further comprising:
collecting (304) the process data (208)from at least one manual-work-process tracking system;

collecting the infrastructure performance data; and
correlating the infrastructure performance data and the process data.

22. (withdrawn)The method as in claim 21, wherein collecting process data from at least one manual-work-process tracking system further comprises:

collecting process data from at least one change control system.

23. (withdrawn)The method as in claim 21, wherein collecting infrastructure performance data further comprises:

collecting infrastructure performance data from at least one automated testing tool, and wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.

24. (withdrawn)The method as in claim 21, wherein the correlating further comprises:

correlating application data, server data and database data from the infrastructure performance data and the process data.

25. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising:

- collecting process data associated with at least one information technology resource;

- collecting infrastructure performance data associated with the at least one information technology resource; and

- correlating the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.

26. The computer-readable medium as in claim 25, wherein collecting infrastructure performance data is performed after collecting process data.

27. The computer-readable medium as in claim 25, wherein collecting infrastructure performance data further comprises:

- collecting infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.

28. The computer-readable medium as in claim 25, wherein

collecting process data further comprises:

collecting process data from at least one software-change control system.

29. The computer-readable medium as in claim 25, wherein collecting process data further comprises:

collecting process data from at least one root-cause analysis system.

30. The computer-readable medium as in claim 25, wherein collecting process data from further comprises:

collecting process data from at least one service-level control system.

31. The computer-readable medium as in claim 25, wherein the correlating further comprises:

correlating application data, server data and database data from the infrastructure performance data and the process data.

32. The computer-readable medium as in claim 25, wherein the correlating further comprises:

correlating the infrastructure performance data and the process data for the at least one information technology resource, in reference to organizational control of the resource.

33. The computer-readable medium as in claim 25, wherein the correlating further comprises:

correlating at least one type of resource data selected from the group consisting of application resource data, server resource data and database resource data, in reference to a common data object.

34. The computer-readable medium as in claim 25, the method further comprising:

generating a risk score for each of the at least one information technology resource from the infrastructure performance data and the process data, wherein the magnitude of each risk score is in correspondence to the frequency of outages indicated in the infrastructure performance data and wherein the magnitude of each risk score is in correspondence to the frequency of changes in the process data.

35. The computer-readable medium as in claim 34, wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and generating a risk profile further comprises:

generating a plurality of scores by multiplying each measurement with a weighting value associated with each measurement; and
generating a risk score from a sum of the plurality of scores.

36. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising:

collecting infrastructure data;

collecting process data;

correlating the infrastructure data and the process data, the

correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information

technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and generating a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.

37. The computer-readable medium as in claim 36, wherein collecting process data further comprises:
collecting process data from at least one manual-work-process tracking system.

38. The computer-readable medium as in claim 36, wherein collecting process data from at least one manual-work-process tracking system further comprises:
collecting process data from at least one change control system.

39. The computer-readable medium as in claim 36, wherein collecting process data from at least one manual-work-process tracking system further comprises:
collecting process data from at least one root-cause analysis system.

40. The computer-readable medium as in claim 36, wherein collecting process data from at least one manual-work-process tracking system further comprises:
collecting process data from at least one service-level control system.

41. The computer-readable medium as in claim 36, wherein collecting infrastructure data further comprises:
collecting infrastructure data from at least one automated testing tool.

42. (withdrawn)The method as in claim 36, wherein the method further comprises:

correlating the infrastructure data and the process data,
and generating a risk profile further comprises:
generating a risk profile from the correlated data.

43. The computer-readable medium as in claim 42, wherein the correlating further comprises:

correlating application data, server data and database data from the
infrastructure data and the process data for each of the
information technology resources.

44. The computer-readable medium as in claim 36, wherein generating the risk profile further comprises:

generating the risk score from the infrastructure data and the process data, wherein the magnitude of the risk score corresponds to the frequency of outages indicated in the infrastructure data and wherein the magnitude of the risk score corresponds to the frequency of changes in the process data, for each of the plurality of information technology resources.

45. The computer-readable medium as in claim 36, wherein the infrastructure data further comprises at least one measurement of performance for each of the plurality of information technology resources and the process data further comprises at least one measurement of activity for each of the plurality of information technology resources, and generating the risk profile further comprises:

generating a score for each of the at least one measurement, each measurement being multiplied by a weighting value associated with each

measurement, yielding at least one score; and
summing the at least one score, yielding a risk score.

46. The computer-readable medium as in claim 45, wherein generating a score further comprises:
generating the score with a higher magnitude for resources having an increasing frequency of outages as indicated in the infrastructure data; and
generating the score with a higher magnitude for resources having an increasing frequency of changes as indicated in the process data.

47. The computer-readable medium as in claim 45, wherein generating the risk score further comprises:
generating the risk score with a lower magnitude for resources having a decreasing frequency of outages as indicated in the infrastructure data; and
generating the risk score with a lower magnitude for resources having a decreasing frequency of changes as indicated in the process data.

48. The computer-readable medium as in claim 36, wherein a higher risk score is generated for resources having an increasing frequency of outages.

49. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising:

collecting infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data;

collecting process data from at least one of a one service-level control

system, a change control system, a root-cause analysis system;

correlating the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and

generating a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.

50. The computer-accessible medium as in claim 49, wherein collecting infrastructure performance data is performed concurrently with collecting process data.

51. The computer-accessible medium as in claim 49, wherein the correlating further comprises:

correlating application data, server data and database data from the infrastructure performance data and the process data.

52. The computer-accessible medium as in claim 49, wherein the correlating further comprises:

correlating the infrastructure performance data and the process data for each of the information technology resources, in reference to organizational control of the resources.

53. The computer-accessible medium as in claim 49, wherein the

infrastructure performance data further comprises at least one measurement of performance for an information technology resource and the process data further comprises at least one measurement of activity for the information technology resource, and generating a risk profile further comprises:

generating a score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of scores; and

summing the plurality of scores, yielding a risk score.

54. The computer-accessible medium as in claim 53, wherein generating a score for each of the measurements further comprises:

generating the score with a higher magnitude for an increasing frequency of outages of the information technology resource as indicated in the infrastructure performance data;

generating the score with a higher magnitude for an increasing frequency of changes of the information technology resource as indicated in the process data;

generating the score with a lower magnitude for a decreasing frequency of outages of the information technology resource as indicated in the infrastructure performance data; and

generating the score with a lower magnitude for a decreasing frequency of changes of the information technology resource as indicated in the process data.

55. (withdrawn)A computer-accessible medium having executable instructions to predict outages of an information technology resource, the executable instructions capable of directing a processor to perform: generating a singular risk score from infrastructure performance data of the information technology resource and process data of the information

technology resource; and
 providing an alert to a user when the singular risk score exceeds a
 predetermined threshold.

56. (withdrawn)The computer-accessible medium as in claim 55,
 wherein generating a singular risk score further comprises:
 generating the singular risk score in correspondence to the frequency
 of outages indicated in the infrastructure performance data and in
 correspondence to the frequency of changes in the process data.

57. (withdrawn)The computer-accessible medium as in claim 55,
 wherein the infrastructure performance data further comprises at least one
 measurement of performance and the process data further comprises at least
 one measurement of activity, and generating a singular risk score further
 comprises:

generating a singular score for each of the measurements, each
 measurement being multiplied by a weighting value associated with each
 measurement, yielding a plurality of weighted scores; and
 summing the plurality of weighted scores, yielding the singular risk
 score.

58. (withdrawn)The computer-accessible medium as in claim 55, the
 method further comprising:
 collecting (304) the process data (208)from at least one manual-work-
 process tracking system;
 collecting the infrastructure performance data; and
 correlating the infrastructure performance data and the process data.

59. (withdrawn)The computer-accessible medium as in claim 58,

wherein collecting process data from at least one manual-work-process tracking system further comprises:

- collecting process data from at least one change control system; and
- collecting infrastructure performance data from at least one automated testing tool, and wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.

60. (withdrawn)A computer-accessible medium having executable instructions to manage data that is predictive of reliability of an information technology system, the executable instructions capable of directing a processor to perform:

- collecting process data associated with at least one information technology resource;
- collecting infrastructure performance data associated with the at least one information technology resource; and
- correlating the infrastructure performance data and the process data for the information technology resource.

61. (withdrawn)The computer-accessible medium as in claim 60, wherein collecting infrastructure performance data further comprises:

- collecting infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data, and
- wherein collecting process data further comprises:
 - collecting process data from at least one software-change control system, at least one root-cause analysis system, and at least one service-level control system.

62. (withdrawn)The computer-accessible medium as in claim 60, wherein the correlating further comprises:

correlating application data, server data and database data from the infrastructure performance data and the process data, for the at least one information technology resource, and in reference to organizational control of the resource.

63. (withdrawn)The computer-accessible medium as in claim 60, wherein the correlating further comprises:

correlating at least one type of resource data selected from the group consisting of application resource data, server resource data and database resource data, in reference to a common data object.

64. (withdrawn)The computer-accessible medium as in claim 60, the method further comprising:

generating a risk score for each of the at least one information technology resource from the infrastructure performance data and the process data, wherein the magnitude of each risk score is in correspondence to the frequency of outages indicated in the infrastructure performance data and wherein the magnitude of each risk score is in correspondence to the frequency of changes in the process data.

65. (withdrawn)The computer-accessible medium as in claim 64, wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and generating a risk profile further comprises:

generating a plurality of scores by multiplying each measurement with a weighting value associated with each measurement; and

generating a risk score from a sum of the plurality of scores.

66. (withdrawn)A computer-accessible medium having executable instructions to assess reliability of a plurality of information technology resources, the executable instructions capable of directing a processor to perform:

collecting infrastructure data;

collecting process data from at least one change control system; and

generating a risk profile for each of the plurality of information technology resources, from the infrastructure data and the process data.

67. (withdrawn)The computer-accessible medium as in claim 66, wherein collecting infrastructure data further comprises:

collecting infrastructure data from at least one automated testing tool.

68. (withdrawn)The computer-accessible medium as in claim 66, wherein the method further comprises:

correlating the infrastructure data and the process data,

and generating a risk profile further comprises:

generating a risk profile from the correlated data.

69. (withdrawn)The computer-accessible medium as in claim 66, wherein generating a risk profile further comprises:

generating a risk score from the infrastructure data and the process data, wherein the magnitude of the risk score corresponds to the frequency of outages indicated in the infrastructure data and wherein the magnitude of the risk score corresponds to the frequency of changes in the process data, for each of the plurality of information technology resources.

70. (withdrawn)The computer-accessible medium as in claim 66, wherein the infrastructure data further comprises at least one measurement of performance for each of the plurality of information technology resources and the process data further comprises at least one measurement of activity for each of the plurality of information technology resources, and generating a risk profile further comprises:

generating a score for each of the at least one measurement, each measurement being multiplied by a weighting value associated with each measurement, yielding at least one score; and

summing the at least one score, yielding a risk score.

71. (withdrawn)A computer data signal embodied in a carrier wave and representing a sequence of instructions which, when executed by a processor, cause the processor to perform a method of:

collecting infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data;

collecting process data from at least one of a one service-level control system, a change control system, a root-cause analysis system;

correlating the infrastructure performance data and the process data; and

generating a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.

72. (withdrawn)The computer data signal as in claim 71, wherein the correlating further comprises:

correlating the infrastructure performance data and the process data

for each of the information technology resources.

73. (withdrawn)The computer data signal as in claim 71, wherein the infrastructure performance data further comprises at least one measurement of performance for an information technology resource and the process data further comprises at least one measurement of activity for the information technology resource, and generating a risk profile further comprises:

generating a score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of scores; and

summing the plurality of scores, yielding a risk score.

74. (withdrawn)A computer data signal embodied in a carrier wave and representing a sequence of instructions which, when executed by a processor, cause the processor to perform a method of:

generating a singular risk score from infrastructure performance data of the information technology resource and process data of the information technology resource; and

providing an alert to a user when the singular risk score exceeds a predetermined threshold.

75. (withdrawn)The computer data signal as in claim 74, wherein generating a singular risk score further comprises:

generating the singular risk score in correspondence to the frequency of outages indicated in the infrastructure performance data and in correspondence to the frequency of changes in the process data.

76. (withdrawn)The computer data signal as in claim 74, wherein

the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and generating a singular risk score further comprises:

generating a singular score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of weighted scores; and

summing the plurality of weighted scores, yielding the singular risk score.

77. (withdrawn)The computer data signal as in claim 74, the method further comprising:

collecting (304) the process data (208)from at least one manual-work-process tracking system;

collecting the infrastructure performance data; and

correlating the infrastructure performance data and the process data.

78. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising:

collecting process data associated with at least one information

technology resource;

collecting infrastructure performance data associated with the at least one information technology resource; and

correlating the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which

data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.

79. The computer-readable medium as in claim 78, wherein collecting the process data further comprises:

collecting process data from at least one software-change control system, at least one root-cause analysis system, and at least one service-level control system.

80. The computer-readable medium as in claim 78, wherein the correlating further comprises:

correlating at least one type of resource data selected from the group consisting of application resource data, server resource data and database resource data, in reference to a common data object.

81. The computer-readable medium as in claim 78, the method further comprising:

generating a risk score for each of the at least one information technology resource from the infrastructure performance data and the process data, wherein the magnitude of each risk score is in correspondence to the frequency of outages indicated in the infrastructure performance data and wherein the magnitude of each risk score is in correspondence to the frequency of changes in the process data, and

wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and generating a risk profile further comprises:

generating a plurality of scores by multiplying each measurement with

a weighting value associated with each measurement; and
generating a risk score from a sum of the plurality of scores.

82. A computer-readable medium having tangibly stored thereon computer-executable instructions causing a computer to perform a method comprising:

collecting infrastructure data;

collecting process data from at least one change control system;

correlating the infrastructure data and the process data, the

correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and
generating a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.

83. (withdrawn)The computer data signal as in claim 82, wherein the method further comprises:

correlating the infrastructure data and the process data,

and generating a risk profile further comprises:

generating a risk profile from the correlated data.

84. The computer-readable medium as in claim 82, wherein generating the risk profile further comprises:

generating a risk score from the infrastructure data and the process data, wherein the magnitude of the risk score corresponds to the frequency of outages indicated in the infrastructure data and wherein the magnitude of the risk score corresponds to the frequency of changes in the process data, for each of the plurality of information technology resources.

85. The computer-readable medium as in claim 82, wherein the infrastructure data further comprises at least one measurement of performance for each of the plurality of information technology resources and the process data further comprises at least one measurement of activity for each of the plurality of information technology resources, and generating a risk profile further comprises:

generating a score for each of the at least one measurement, each measurement being multiplied by a weighting value associated with each measurement, yielding at least one score; and

summing the at least one score, yielding a risk score.

86. An apparatus including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon:

a collector of infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data;

a collector of process data from at least one of a one service-level control system, a change control system, a root-cause analysis system;

a correlator of the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in

reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and

a generator of a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.

87. The apparatus as in claim 86, wherein the correlator further comprises:

a correlator of the infrastructure performance data and the process data for each of the information technology resources.

88. The apparatus as in claim 86, wherein the infrastructure performance data further comprises at least one measurement of performance for an information technology resource and the process data further comprises at least one measurement of activity for the information technology resource, and the risk profile generator further comprises:

a generator of a score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of scores; and

an adder of the plurality of scores, yielding a risk score.

89. (withdrawn)An apparatus comprising:

a generator of a singular risk score from infrastructure performance data of the information technology resource and process data of the information technology resource; and

a provider of an alert to a user when the singular risk score exceeds a

predetermined threshold.

90. (withdrawn)The apparatus as in claim 89, wherein generator of the singular risk score further comprises:

a generator of the singular risk score, the score being in correspondence to a frequency of outages indicated in the infrastructure performance data and in correspondence to a frequency of changes in the process data.

91. (withdrawn)The apparatus as in claim 89, wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and the generator of the singular risk score further comprises:

a generator of a singular score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of weighted scores; and

an adder of the plurality of weighted scores, yielding the singular risk score.

92. (withdrawn)The apparatus as in claim 89, the method further comprising:

a collector of the process data from at least one manual-work-process tracking system;

a collector of the infrastructure performance data; and

a correlator of the infrastructure performance data and the process data.

93. An apparatus including a processor operably coupled to a

computer-readable medium, the computer-readable medium having tangibly stored thereon:

- a collector of process data associated with at least one information technology resource;

- a collector of infrastructure performance data associated with the at least one information technology resource; and

- a correlator of the infrastructure performance data and the process data for the information technology resource, the correlating including determining associations for individual resources between the infrastructure performance data and the process data, the determining in reference to a common data object, the determining including identifying a particular resource by a common name in the common data object, wherein data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.

94. The apparatus as in claim 93, wherein the collector of process data further comprises:

- a collector of process data from at least one software-change control system, at least one root-cause analysis system, and at least one service-level control system.

95. The apparatus as in claim 93, wherein the correlator of further comprises:

- a correlator of at least one type of resource data selected from the group consisting of application resource data, server resource data and database resource data, in reference to a common data object.

96. The apparatus as in claim 93, the apparatus further comprising:

a generator of a risk score for each of the at least one information technology resource from the infrastructure performance data and the process data, wherein the magnitude of each risk score is in correspondence to the frequency of outages indicated in the infrastructure performance data and wherein the magnitude of each risk score is in correspondence to the frequency of changes in the process data, and

wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and a generator of a risk profile further comprises:

a generator of a plurality of scores that is operable to multiply each measurement with a weighting value associated with each measurement; and
a generator of a risk score from a sum of the plurality of scores.

97. An apparatus including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon:

a collector of infrastructure data;
a collector of process data from at least one change control apparatus;
a correlator of the infrastructure data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and
a generator of a risk profile from the correlated data for each of the plurality of information technology resources, from the infrastructure data and the process data.

98. (withdrawn)

99. The apparatus as in claim 97, wherein the generator of the risk profile further comprises:

a generator of a risk score from the infrastructure data and the process data, wherein the magnitude of the risk score corresponds to the frequency of outages indicated in the infrastructure data and wherein the magnitude of the risk score corresponds to the frequency of changes in the process data, for each of the plurality of information technology resources.

100. The apparatus as in claim 97, wherein the infrastructure data further comprises at least one measurement of performance for each of the plurality of information technology resources and the process data further comprises at least one measurement of activity for each of the plurality of information technology resources, and a generator of a risk profile further comprises:

a multiplier of the at least one measurement to a weighting value associated with each measurement, yielding at least one score; and

an adder of the at least one score, yielding a risk score.

101. A system to manage outages of information technology resources, the system including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon:

apparatus operable to collect infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data;

apparatus operable to collect process data from at least one of a one service-level control system, a change control system, a root-cause analysis system;

apparatus operable to correlate the infrastructure performance data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and

apparatus operable to generate a risk profile for each of the information technology resources from a frequency of outages in the correlated data and a frequency of changes in the correlated data.

102. The system as in claim 101, wherein the apparatus operable to correlate further comprises:

apparatus operable to correlate application data, server data and database data from the infrastructure performance data and the process data.

103. (previously presented)The system as in claim 101, wherein the apparatus operable to correlate further comprises:

apparatus operable to correlate the infrastructure performance data and the process data for each of the information technology resources, in reference to organizational control of the resources.

104. (previously presented)The system as in claim 101, wherein the infrastructure performance data further comprises at least one measurement

of performance for an information technology resource and the process data further comprises at least one measurement of activity for the information technology resource, and the apparatus operable to generate a risk profile further comprises:

apparatus operable to generate a score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of scores; and

apparatus operable to sum the plurality of scores, yielding a risk score.

105. (previously presented)The system as in claim 104, wherein the apparatus operable to generate a score for each of the measurements further comprises:

apparatus operable to generate the score with a higher magnitude for an increasing frequency of outages of the information technology resource as indicated in the infrastructure performance data;

apparatus operable to generate the score with a higher magnitude for an increasing frequency of changes of the information technology resource as indicated in the process data;

apparatus operable to generate the score with a lower magnitude for a decreasing frequency of outages of the information technology resource as indicated in the infrastructure performance data; and

apparatus operable to generate the score with a lower magnitude for a decreasing frequency of changes of the information technology resource as indicated in the process data.

106. (withdrawn)A system to predict outages of an information technology resource, the system comprising:

means for generating a singular risk score from infrastructure performance data of the information technology resource and process data of

the information technology resource; and

means for providing an alert to a user when the singular risk score exceeds a predetermined threshold.

107. (withdrawn)The system as in claim 106, wherein the means for generating a singular risk score further comprises:

means for generating the singular risk score in correspondence to the frequency of outages indicated in the infrastructure performance data and in correspondence to the frequency of changes in the process data.

108. (withdrawn)The system as in claim 106, wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and the means for generating a singular risk score further comprises:

means for generating a singular score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of weighted scores; and

means for summing the plurality of weighted scores, yielding the singular risk score.

109. (withdrawn)The system as in claim 106, the system further comprising:

means for collecting (304) the process data (208)from at least one manual-work-process tracking system;

means for collecting the infrastructure performance data; and

means for correlating the infrastructure performance data and the process data.

110. (withdrawn)The system as in claim 109, wherein collecting process data from at least one manual-work-process tracking system further comprises:

means for collecting process data from at least one change control system; and

means for collecting infrastructure performance data from at least one automated testing tool, and wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data.

111. A system to manage data that is predictive of reliability of an information technology system, the system including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon:

apparatus operable to collect process data associated with at least one information technology resource;

apparatus operable to collect infrastructure performance data associated with the at least one information technology resource; and

apparatus operable to correlate the infrastructure performance data and the process data for the information technology resource in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data.

112. (previously presented)The system as in claim 111, wherein the apparatus operable to collect infrastructure performance data further

comprises:

apparatus operable to collect infrastructure performance data from at least one automated testing tool, wherein the infrastructure performance data further comprises at least one of application performance data, server error logs, application post mortem data, and outage data, and

wherein the apparatus operable to collect process data further comprises:

apparatus operable to collect process data from at least one software-change control system, at least one root-cause analysis system, and at least one service-level control system.

113. (previously presented)The system as in claim 111, wherein the apparatus operable to correlate further comprises:

apparatus operable to correlate application data, server data and database data from the infrastructure performance data and the process data, for the at least one information technology resource, and in reference to organizational control of the resource.

114. (previously presented)The system as in claim 111, wherein the apparatus operable to correlate further comprises:

apparatus operable to correlate at least one type of resource data selected from the group consisting of application resource data, server resource data and database resource data, in reference to a common data object.

115. The system as in claim 111, wherein the system further comprises:

apparatus operable to generate a risk score for each of the at least one information technology resource from the infrastructure performance data

and the process data, wherein the magnitude of each risk score is in correspondence to the frequency of outages indicated in the infrastructure performance data and wherein the magnitude of each risk score is in correspondence to the frequency of changes in the process data.

116. (previously presented)The system as in claim 115, wherein the infrastructure performance data further comprises at least one measurement of performance and the process data further comprises at least one measurement of activity, and the apparatus operable to generate a risk profile further comprises:

apparatus operable to generate a plurality of scores by multiplying each measurement with a weighting value associated with each measurement; and

apparatus operable to generate a risk score from a sum of the plurality of scores.

117. A system to assess reliability of a plurality of information technology resources, the system including a processor operably coupled to a computer-readable medium, the computer-readable medium having tangibly stored thereon:

apparatus operable to collect infrastructure data;

apparatus operable to collect process data from at least one change control system;

apparatus operable to correlate the infrastructure data and the process data in which associations for individual resources between the infrastructure performance data and the process data are determined in reference to common data object, in which a particular resource is identified by a common name in the common data object, in which data associated with the common

name of each information technology resource is aggregated between various data sources of the infrastructure performance data and the process data; and

apparatus operable to generate a risk profile for each of the plurality of information technology resources, from the correlated infrastructure data and the process data.

118. (previously presented)The system as in claim 117, wherein the apparatus operable to collect infrastructure data further comprises:

apparatus operable to collect infrastructure data from at least one automated testing tool.

119. (withdrawn)The system as in claim 117, wherein the system further comprises:

apparatus operable to correlate the infrastructure data and the process data,

and the apparatus operable to generate a risk profile further comprises:

apparatus operable to generate a risk profile from the correlated data.

120. (previously presented)The system as in claim 117, wherein the apparatus operable to generate a risk profile further comprises:

apparatus operable to generate a risk score from the infrastructure data and the process data, wherein the magnitude of the risk score corresponds to the frequency of outages indicated in the infrastructure data and wherein the magnitude of the risk score corresponds to the frequency of changes in the process data, for each of the plurality of information technology resources.

121. (previously presented)The system as in claim 117, wherein the

infrastructure data further comprises at least one measurement of performance for each of the plurality of information technology resources and the process data further comprises at least one measurement of activity for each of the plurality of information technology resources, and the apparatus operable to generate a risk profile further comprises:

- apparatus operable to generate a score for each of the at least one measurement, each measurement being multiplied by a weighting value associated with each measurement, yielding at least one score; and

- apparatus operable to add the at least one score, yielding a risk score.

122. (withdrawn)A computer-accessible medium having executable instructions to manage outages of information technology resources, the executable instructions capable of directing a processor to perform:

- identifying measurements in infrastructure data and process data that are indicative of failure rates of information technology resources;

- determining significance of each of the measurements; and

- modifying a method for calculating risk from the significance.

123. (withdrawn)The computer-accessible medium as in claim 122, wherein the method is performed periodically in order to heuristically update failure prediction analysis.

124. (withdrawn)The computer-accessible medium as in claim 122, wherein the method for calculating risk further comprises:

- generating a score for each of the measurements, each measurement being multiplied by a weighting value associated with each measurement, yielding a plurality of scores; and

- summing the plurality of scores, yielding a risk score.